

**STORM WATER MANAGEMENT
CHECKLIST FOR ANNUAL INSPECTION**

FHR Peru, Illinois Facility

Date May 25, 2011 Weather Conditions PARTLY CLOUDY

- ☒ Trash, litter, debris [NONE SIGNIFICANT]
- ☒ Significant accumulations of beads [SOUTH OF SILOS ALONG THE SOUTH SIDE OF BRUNNER STREET, NORTH OF SHIPPING. N.B.S. OF PARKOUT]
- ☒ Spillage at compactors [NONE VISIBLE]
- ☒ Improper storage of materials, equipment [NONE OBSERVED]
- ☒ Storage boxes and bags -- torn, damaged, exposed to run-off, spillage [NONE]
- ☒ Tanks -- corrosion, damage, inadequate support, containment, leakage [NONE OBSERVED]
- ☒ Drums -- corrosion, damage, uncovered, containment, spillage [CORROSION OBSERVED ON A PENTANE DRUM IN THE TOLAB OUTDOOR CHEMICAL STORAGE AREA]
- ☒ Secondary containment structures -- structural integrity, presence of oil or residue filled with water, valves open [APPEAR TO BE IN GOOD CONDITION]
- ☒ Piping and valves -- corrosion, leakage [NONE VISIBLE]
- ☒ Pumps and hose connections -- leakage [NONE OBSERVED]
- ☒ Sludge accumulations near wastewater plant [NONE OBSERVED]
- ☒ Oil staining on ground [A FEW STAINS OBSERVED BY THE UTILITIES COMPACTOR FROM AWT]

✓ Other residue, discolored surfaces

[NINE VISIBLE]

FHR PERU FACILITY

ANNUAL SW INSPECTION

MAY 25, 2011

✓ Erosion problems [NONE OBSERVED]

✓ Accumulations of debris/sediment at catch basins/inlets, stop gates,
skimmer pond [NONE OBSERVED]

✓ Non stormwater discharge to surface [NONE OBSERVED]

✓ Spill response equipment and supplies at appropriate locations [STOCKED &
AVAILABLE]

✓ Other

Inspector Name GANESH KRISHN, ENV. ENGR.

Signature [Signature]

ATTACHMENT 4
Flint Hills Resources Chemical Intermediates, LLC - Peru, Illinois
Summary of Outdoor Spills
January 1, 2011 to April 30, 2011

Date	Time of Spill	Duration (minutes)	Incident #	Material(s)	Area	Total Quantity	Description	Cause Leading to the Spill Event	Corrective Actions
3/10/2011	3:20 PM	1	47410	Power-steering Fluid	North side of Shipping	1 quart	Operator discovered spilled power-steering fluid on ground north of warehouse (The reservoir on a Double D Express Truck failed).	Defective equipment	Double D Express mechanics were called in to repair the defective-truck. The FHR operator reported the spill to the supervisor and applied oil-dry. The cleaned up materials were placed in a container and transferred to the facility's 90-day waste storage area. Note: No spilled-material from this incident entered the storm-sewers.
4/14/2011	8:00 AM	10	48319	Styrene	Pilot Plant Emergency Pit	~5 pounds	The Distributed-Control-System ("DCS") at the facility failed to control the overheating of reactor LR04 at the Pilot Plant. Styrene vapors went past the condenser and dripped out into the pit upon condensation.	Defective equipment	The Technology Development Leader (TDL) notified the facility Environmental Engineer (EE) of the incident. The EE along with the TDL inspected the area of the spill. A small sheen was observed on the water in the pit whose contents are pumped into the Surge tank at the facility's wastewater treatment plant. Appropriate changes were made to the DCS at the facility to minimize the recurrence of incidents of this nature. Note: No spilled-material from this incident entered the storm-sewers.
4/20/2011	~7:30 PM	15	48666	Cooling Tower Water	Cooling Towers	~1,000 gallons	An FHR employee discovered that the Cooling Tower was overflowing. He immediately notified the Utilities Facilitator who tried to shut-off the valve. As the valve would not close, he then shut-off the pump.	An RCFA (Root Cause Failure Analysis) was performed by relevant facility personnel on May 2, 2011 to formally investigate this incident. After inspection of the valve assemblies, it was determined that the valve-stems had been snapped due to external force.	The following recommendations were made based on the 5/2/11 RCFA for this Incident with a target completion date of October 1, 2011: 1. Initiate work order to check / calibrate wizard pressure control valve. 2. Replace damaged non functioning valves at first opportunity. 3. Research alternative valves for the application. 4. Investigate installation of threaded access ring to facilitate valve replacement. 5. Initiate PM for semi annual exercising and lubrication of isolation valves. 6. Initiate work order to replace missing pressure transmitter & gauge in Cooling Tower Water return line. (PT HX-2000) Note: The spilled-water from this incident flowed on to the asphalt/concrete surfaces in the vicinity of the Cooling-Towers. No clean-up actions were initiated as the spilled-water did not enter storm-sewers. The water eventually evaporated.

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4/26/2011	6:00 PM	120	48648	Cooling Tower Water	Cooling Towers	2k - 3k gallons	<p>An FHR employee discovered that the Cooling Tower was overflowing. The spilled-water was flowing toward and into the large west-basin of the Duck-Pond. He immediately notified the Utilities Facilitator and closed the Stop-gate at the Duck Pond.</p> <p>The spilled-water was then transported to the facility's wastewater treatment plant for treatment and release to the City of Peru POTW.</p>	<p>An RCFA (Root Cause Failure Analysis) was performed by relevant facility personnel on May 2, 2011 to formally investigate this incident.</p> <p>After inspection of the valve assemblies, it was determined that the valve-stems had been snapped due to external force.</p>	<p>The following recommendations were made based on the 5/2/11 RCFA for this Incident with a target completion date of October 1, 2011:</p> <ol style="list-style-type: none">1. Initiate work order to check / calibrate wizard pressure control valve.2. Replace damaged non functioning valves at first opportunity.3. Research alternative valves for the application.4. Investigate installation of threaded access ring to facilitate valve replacement.5. Initiate PM for semi annual exercising and lubrication of isolation valves.6. Initiate work order to replace missing pressure transmitter & gauge in Cooling Tower Water return line. (PT HX-2000) <p>Note: A portion of the spilled-water from this incident flowed into the Duck Pond at the facility besides flowing on to asphalt/concrete surfaces in the vicinity of the Cooling-Towers. The stop-gate at the Duck-Pond was immediately closed to prevent any flow of the spilled-water into the Illinois River. The spilled-water within the west basin of the Duck-Pond was then transported to the facility's wastewater treatment plant for treatment and release to the City of Peru POTW. No other clean-up actions were initiated as the spilled-water did not enter storm-sewers.</p>

SAMPLE # 1

Quarterly Storm Water Sample Collection and Visual Observation Documentation

Date and Time of the Qualifying Event	7-6-2010 18:30
Nature of the Qualifying Event (Rain/Snow Melt)	Rain
Magnitude of the Qualifying Event (inches)	0.3
Date and Time of Sampling	7-6-2010 19:40
Sample Location	Utilities Sample Point #1
Sample Collector's Name and Title	Richard L. Ploch / Relief Shift Supervisor
Time of Sample Observation	20:09
Sample Observer's Name and Title	GANESHA KRISHN / ENV ENGR
Color	WHITISH YELLOW
Odor	NONE
pH	9.74
Clarity	MOSTLY CLOUDY
Floating Solids	NONE VISIBLE [POSSIBLY VERY FINE]
Settled Solids	A FEW FINE PARTICLES [DIRT]
Suspended Solids	NONE VISIBLE
Foam	NONE
Oil Sheen	NONE
Other Obvious Indicators of Pollution	NONE

Richard L. Ploch / Relief Shift Supervisor
Signature/Title of Sample Collector

7-6-2010
Date

Ganesh Krishna / Env Engr
Signature/Title of Sample Observer

7/6/2010
Date:

SAMPLE #2

Quarterly Storm Water Sample Collection and Visual Observation Documentation

Date and Time of the Qualifying Event	7-6-2010 18:30
Nature of the Qualifying Event (Rain/Snow Melt)	Rain
Magnitude of the Qualifying Event (inches)	0.3
Date and Time of Sampling	7-6-2010 19:30
Sample Location	"Duck Pond" Sample Point #2
Sample Collector's Name and Title	Richard L. Ploch / Relief Shift Supervisor
Time of Sample Observation	20:11
Sample Observer's Name and Title	GANESH KRISHA / ENV ENGR
Color	NONE TO VERY SLIGHT YELLOW
Odor	NONE
pH	9.64
Clarity	SLIGHTLY CLOUDY [MOSTLY CLEAR]
Floating Solids	NONE VISIBLE
Settled Solids	A FEW FINE PARTICLES [DIRT]
Suspended Solids	NONE VISIBLE
Foam	NONE
Oil Sheen	NONE
Other Obvious Indicators of Pollution	NONE

Richard L. Ploch / Relief Shift Supervisor
Signature/Title of Sample Collector

7-6-2010
Date

Ganesh Krishna / ENV ENGR
Signature/Title of Sample Observer

7/6/2010
Date:

Sample # 1

Quarterly Storm Water Sample Collection and Visual Observation Documentation

Date and Time of the Qualifying Event	10-23-2010 10:15
Nature of the Qualifying Event (Rain/Snow Melt)	Rain
Magnitude of the Qualifying Event (inches)	1/2" inch
Date and Time of Sampling	10-23-2010 / 10:42 am
Sample Location	Utilities area, sample point "I"
Sample Collector's Name and Title	Richard L. Plach / Night Shift Supervisor
Time of Sample Observation	10:53 am
Sample Observer's Name and Title	Richard L. Plach / Night Shift Supervisor
Color	clear
Odor	none
pH	8.90
Clarity	very slightly cloudy
Floating Solids	none
Settled Solids	none
Suspended Solids	none
Foam	none
Oil Sheen	none
Other Obvious Indicators of Pollution	none

Richard L. Plach / Night Shift Supervisor
Signature/Title of Sample Collector

10-23-2010
Date

Richard L. Plach / Night Shift Supervisor
Signature/Title of Sample Observer

10-23-2010
Date:

SAMPLE #2

Quarterly Storm Water Sample Collection and Visual Observation Documentation

Date and Time of the Qualifying Event	10-23-2010 10:15
Nature of the Qualifying Event (Rain/Snow Melt)	Rain
Magnitude of the Qualifying Event (inches)	1/2" inch
Date and Time of Sampling	10-23-2010 / 10:38 am
Sample Location	Sample point #2 "Duck Pond"
Sample Collector's Name and Title	Richard L. Ploch / Relief Shift Supervisor
Time of Sample Observation	10:57 am
Sample Observer's Name and Title	Richard L. Ploch / Relief Shift Supervisor
Color	clear
Odor	none
pH	9.38
Clarity	only slightly cloudy
Floating Solids	none
Settled Solids	none
Suspended Solids	none
Foam	none
Oil Sheen	none
Other Obvious Indicators of Pollution	none

Richard L. Ploch / Relief Shift Supervisor
Signature/Title of Sample Collector

10-23-2010
Date

Richard L. Ploch / Relief Shift Supervisor
Signature/Title of Sample Observer

10-23-2010
Date:

SAMPLE # 1

Quarterly Storm Water Sample Collection and Visual Observation Documentation

Date and Time of the Qualifying Event	2-14-2011 N/A [Snow Melt]
Nature of the Qualifying Event (Rain/Snow Melt)	Snow Melt
Magnitude of the Qualifying Event (inches)	N/A
Date and Time of Sampling	2-14-11 15:00
Sample Location	Sample #1 Southwest of Utilities
Sample Collector's Name and Title	Richard L. Plach / Relief Shift Supervisor
Time of Sample Observation	3:27 P.M.
Sample Observer's Name and Title	GANESH KRISHN, ENV ENGR
Color	NONE [SLIGHTLY CLOUDY]
Odor	NONE
pH	8.42
Clarity	CLOUDY [TRANSLUCENT]
Floating Solids	NONE VISIBLE
Settled Solids	"
Suspended Solids	"
Foam	NONE
Oil Sheen	NONE VISIBLE
Other Obvious Indicators of Pollution	NONE

Richard L. Plach / Relief Shift Supervisor
Signature/Title of Sample Collector

2-14-2011
Date

Ganesh Krishn, Env Engr.
Signature/Title of Sample Observer

FEB 14, 2011
Date:

4037.3

SAMPLE #2

Quarterly Storm Water Sample Collection and Visual Observation Documentation

Date and Time of the Qualifying Event	2-14-2011 N/A [Snow Melt]
Nature of the Qualifying Event (Rain/Snow Melt)	Snow melt
Magnitude of the Qualifying Event (inches)	N/A
Date and Time of Sampling	2-14-2011 @ 14:50
Sample Location	#2 Duck Pond [O/F Chamber]
Sample Collector's Name and Title	Richard Ploch / Relief Shift Supervisor
Time of Sample Observation	3:20 p.m.
Sample Observer's Name and Title	GANESH KRISHN, ENV ENGR
Color	NONE [SLIGHTLY CLOUDY]
Odor	NONE
pH	8.19
Clarity	CLOUDY [TRANSLUCENT]
Floating Solids	NONE VISIBLE
Settled Solids	"
Suspended Solids	"
Foam	NONE
Oil Sheen	NONE VISIBLE
Other Obvious Indicators of Pollution	NONE

Richard Ploch / Relief Shift Supervisor
Signature/Title of Sample Collector

2-14-2011
Date

GANESH KRISHN, ENV ENGR
Signature/Title of Sample Observer

FEB 14, 2011
Date:

4037.3

SAMPLE # 1

Quarterly Storm Water Sample Collection and Visual Observation Documentation

Date and Time of the Qualifying Event	4/15/11 1215 HRS
Nature of the Qualifying Event (Rain/Snow Melt)	RAIN
Magnitude of the Qualifying Event (inches)	~ 1 inch
Date and Time of Sampling	4/15/11 1330 HRS
Sample Location	MH-050 [SW OF UTILITIES]
Sample Collector's Name and Title	ERIK SKOOG [SHIFT SUP]
Time of Sample Observation	1420 HRS
Sample Observer's Name and Title	GANESH KRISH, ENV ENGR
Color	NONE [SLIGHTLY CLOUDY]
Odor	NONE
pH	8.5
Clarity	SLIGHTLY CLOUDY [TRANSLUCENT]
Floating Solids	NONE VISIBLE
Settled Solids	A VERY THIN PARTIAL LAYER
Suspended Solids	SLIGHTLY CLOUDY
Foam	NONE VISIBLE
Oil Sheen	"
Other Obvious Indicators of Pollution	"


 Signature/Title of Sample Collector

4-15-11
 Date


 Signature/Title of Sample Observer

4/15/11
 Date:

4037.3

SAMPLE #2

Quarterly Storm Water Sample Collection and Visual Observation Documentation

Date and Time of the Qualifying Event	4/15/11 1215 Hrs
Nature of the Qualifying Event (Rain/Snow Melt)	RAIN
Magnitude of the Qualifying Event (inches)	~ 1 inch
Date and Time of Sampling	4/15/11 1338 Hrs.
Sample Location	Duck Pond
Sample Collector's Name and Title	ERIK SKOOG, SAFT SUPER
Time of Sample Observation	1415 1338 HRS (LAK)
Sample Observer's Name and Title	GANESH KRISHA, ENV ENGR
Color	NONE [SLIGHTLY CLOUDY]
Odor	NONE
pH	9.2
Clarity	CLOUDY (TRANSLUCENT)
Floating Solids	NONE
Settled Solids	THIN PARTIAL LAYER
Suspended Solids	NONE VISIBLE [CLOUDY]
Foam	NONE
Oil Sheen	NONE
Other Obvious Indicators of Pollution	NONE


 Signature/Title of Sample Collector

4-15-11
 Date


 Signature/Title of Sample Observer

4/15/11
 Date: